Title:	**A GIS-Based Hazards Assessment for Georgetown County, SC**	
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Hazards examined:	Hurricanes, tornadoes, hail/severe storms/wind events, earthquake, wildfire, drought and toxic chemical releases (roadway, railway and fixed facilities.	
Study emphasis:	Mitigation planning, damage assessments and post-disaster response.	
Summary:	Offers a summary of social and biophysical vulnerability of study area. The hazards assessment involved four primary elements including hazards identification and occurrence, identification of vulnerable populations, the integration of these two elements in a geographical or spatial context and the identification of the social and infrastructure context. The goal of the assessment is the identification of those areas most physically and socially vulnerable to hazards. Social vulnerability involved the incorporation of eight separate indicators including total population, number of housing units, female, nonwhite, people over 65 years of age and under 18, mean home value and number of mobile homes.	

Vulnerability Indicators: Social and biophysical (detailed below)

Economic Development, Disaster Preparedness, Disaster Response and/or Disaster Reconstruction Application: The assessment, handbook, and baseline information developed in this research are essential for pre-impact mitigation planning, damage assessments, and post-disaster response. A primary goal of this assessment was to create a method of identifying the risk posed by multiple hazards for the purpose of promoting mitigation.

Data Requirements: A key component of any vulnerability assessment is the acquisition of systematic, quality baseline data, particularly at the local level. These data provide inventories of hazard areas and vulnerable populations, as well as the ability to conduct analysis. This approach is data intensive, requiring indicators from a wide-range

of sources.

Output: The hazards assessment for Georgetown County, South Carolina followed a methodology utilizing a geographic information system (GIS). The findings of this study are conveyed in the final report, *A GIS-Based Hazards Assessment for Georgetown County, South Carolina*, which summarizes the social and biophysical vulnerability of Georgetown County. The culmination of the research is an assessment of place vulnerability, a merging of the hazard zones and social vulnerability. A handbook, *Handbook for Conducting a GIS-Based Hazards Assessment at the County Level*, details a methodology for conducting a hazards assessment using an all-hazards approach. In addition to these two documents, the final results include a CD-Rom containing all GIS data layers for the county.

Results of Application at Case Study Site: The assessment portion of the project involved four primary elements: hazards identification and occurrence, identification of vulnerable populations, the integration of these two elements in a geographic or spatial context, and the identification of the social and infrastructure context. The primary goal of this assessment was to identify those areas most physically and socially vulnerable to hazards. In terms of the delineation of individual hazard threats, there were generally four main steps. These included hazard identification, data acquisition, the calculation of hazard frequency of occurrence, and delineation of the hazard zone. The hazards incorporated into this study consisted of hurricanes, tornadoes, hail/severe storms/wind events, earthquake, wildfire, drought, and toxic releases (roadway, railway, and fixed facility). These data were all derived from publicly available federal and state sources. At the completion of this portion of the analysis, the composite hazard vulnerability was assessed within the GIS. The social vulnerability portion of the analysis involved incorporating eight indicators: total population, housing units, female, nonwhite, people over 65 years of age and under 18 years of age, mean house value, and mobile homes (primarily from U.S. Census information). A composite social vulnerability based on these factors was computed within the GIS. The culmination of the project involved combining the social and the biophysical vulnerability assessments to arrive at place vulnerability. The final analysis provides the means to examine where vulnerable people are in relation to hazardous areas. For example, one could identify areas that had both high social and high biophysical vulnerability. In addition to the identification of social, biophysical, and place vulnerability, the relationship of these to infrastructure (evacuation routes, structures, utilities, railroads, bridges, dams, airfields, ports, and response facilities) and special needs populations (day care centers, nursing homes, health centers, hospitals, and schools) was also evaluated.